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ABSTRACT

Compared with other types of higher education institutions, community colleges charge less in tuition and fees while focusing more of their resources directly on the students. Relative to inflation across all sectors of higher education, the increase in fees at public community colleges has been lower than that of other higher education institutions, which have experienced decreased revenue from state and local sources. Despite increases in tuition, the average family of four would have to spend only 2.5% of its annual income to send a child to a community college for 1 year. The analysis of the cost of higher education in this document presents data on community college tuition and fees, full-time-equivalent students, student-related expenditures, budgets for instruction and academic support, full-time faculty, and state resources. Included are charts, graphs and other statistical data related to family income, types of institutions, revenue by source, and expenditure. Statistical information contained in this article supports the idea that community colleges are the most cost-effective form of higher education available, with fees significantly less per full-time-equivalent student than those at any other type of postsecondary institution. (AS)

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The Cost of Education: Community Colleges A Good Value

AACC Research Brief

AACC-RB-98-2

Kent Phillippe

American Association of Community Colleges

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American Association of Community Colleges

RESEARCH BRIEF

AACC-RB-98-2

Cost of Education

The Cost of Education: Community Colleges a Good Value

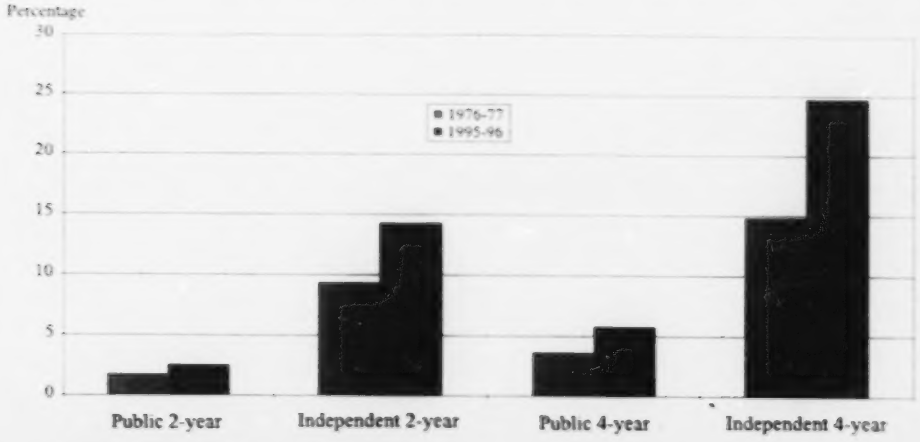
By Kent Phillippe

Executive Summary

Community colleges provide the least expensive college choice for students and parents dismayed by the rapidly growing costs of postsecondary education *(see Figure 1)*. Compared with other types of higher educational institutions, community colleges charge less in tuition and fees while focusing more of their resources directly on their students. An analysis of the costs of higher education reveals the following facts:

- Community college tuition and fees average about one-tenth the average tuition and fees paid at independent four-year colleges.
- Community colleges have the lowest cost per full-time-equivalent (FTE) student of any type of higher educational institution.
- Community colleges spend more than 75 percent of their budgets on student-related expenditures, a higher proportion than any other sector.
- Community colleges spend more than 50 percent of their budgets on instruction and academic support.
- Full-time community college faculty spend more hours in the classroom than faculty in any other sector of higher education.
- The percentage of revenue community colleges receive from state sources has decreased significantly, offset by an increase in tuition and fee revenue.

Figure 1 – Percentage of Household Income the Average Family of Four Spends on One Year of College Tuition by Type of Institution: 1976-77 and 1995-96



Source: IPEDS, U.S. Department of Education

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Background

Recently, the media have called attention to the high cost of attending college, reporting that families may have to spend more than $100,000 for a single child's college education. They also note that college tuition and fees are rising significantly faster than inflation. These discussions have focused primarily on independent, highly selective four-year institutions. But students have other choices available when considering what kind of institution to attend. The options include independent four-year colleges and universities, public four-year colleges and universities, independent two-year colleges, and public community colleges—and they vary considerably with regard to tuition and fees as well as overall budgets. Further, the discussion has concentrated on the "sticker price" of education (the price the student pays to attend) and has not dealt with the total cost of education (the actual amount required to provide the education to the student).

Community colleges are the least expensive alternative for postsecondary education from either perspective: Community college students pay less in tuition and fees, and the overall cost to educate the students is lower. Community colleges' total expenditures per full-time-equivalent student are one-fourth less than those of the institutions most like them—public four-year colleges that do not grant doctoral degrees. Students at public community colleges pay less than half as much as they would at public four-year colleges. One way community colleges maintain their low cost is by spending more than 75 percent of their budgets on student-related expenditures, with more than 50 percent going to instruction and academic support.

Cost and Mission

This research brief looks at the cost of higher education across all sectors, with a focus on the least expensive choice: community colleges. Since tuition is the primary cost that affects the consumer, the trends in tuition and fees over recent years will be examined. Tuition and fees are not the only source of revenue for colleges, however. Other revenue streams, which are closely related to tuition and fees, also will be examined. These other streams are indirect factors in the price of higher education; they include revenue from state, federal, and local taxes and miscellaneous funds received by colleges.

Revenue directly affects the expenditures that colleges make. In order to do more than they already do, or provide more services, colleges need to generate more revenue. In addition, college expenditures are generally restricted by the mission of the institution. This means that community colleges, because they are committed to access, affordability, and teaching, must be inexpensive and spend relatively more on instruction and student-related activities than do institutions whose missions are broader and include a commitment to areas such as research.

Tuition and Fees

In the 1995–96 academic year, the average for tuition and fees varied considerably across sectors of education. Average tuition and fees for independent four-year institutions were about $12,239 per year, while average tuition and fees at public community colleges were one-tenth of that, or about $1,245 *(see Table 1)*.

Table 1 – Tuition and Fees by Type of Institution: *1976-77* and *1995-96*

	Current Dollars			Inflation-Adjusted Dollars		
	1976–77	**1995–96**	**Change**	**1976–77**	**1995–96**	**Change**
Public 2-year	$283	$1,245	340%	$719	$1,245	73%
Independent 2-year	$1,592	$7,039	342%	$4,043	$7,039	74%
Public 4-year	$617	$2,848	362%	$1,567	$2,848	82%
Independent 4-year	$2,534	$12,239	383%	$6,436	$12,239	90%

SOURCE: NCES, Bureau of the Census

Table 2 – Tuition and Fees as a Percentage of Annual Family Income: *1976-77* and *1995-96*

	1976–77	1995–96	Change
Percentage of Median Household Income			
Public 2-year	1.7%	2.5%	52%
Independent 2-year	9.3%	14.2%	53%
Public 4-year	3.6%	5.7%	60%
Independent 4-year	14.8%	24.7%	67%
Median Household Income			
Current Dollars	$17,133	$49,531	189%
Inflation-Adjusted Dollars	$43,515	$49,531	14%

SOURCE: NCES, Bureau of the Census
*Median household income for a family of four

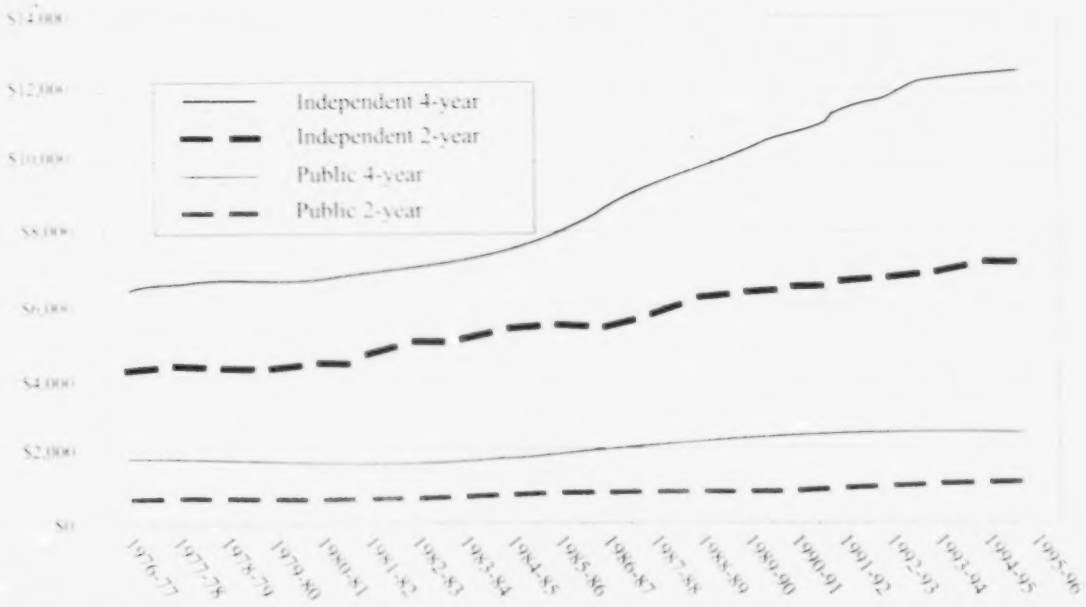
To put these figures into perspective, compare the median income for a family of four with various tuition costs. As shown in Table 2, in the 1995–96 academic year the median income for a family of four was $49,531. (The average household income for all households was $34,076.) To pay for one year's tuition and fees at a community college, a family of four would have to spend 2.5 percent of its annual income. At the other end of the spectrum, one year's tuition and fees at an independent four-year college would require approximately one-quarter (24.7 percent) of the median income for a family of four.

Between 1976 and 1995, tuition and fees in higher education for all institutions rose by more than 300 percent *(Table 1)*. During the same period, median family incomes rose by less than 200 percent *(Table 2)*. The tuition increase was highest for independent four-year institutions (383 percent) and lowest for public community colleges (340 percent). After adjusting for the impact of inflation, the median family income for a family of four increased by about 14 percent *(Table 2)*, while tuition and fees in the various higher education sectors increased by 73 to 90 percent *(Table 1)*.

Relative to family income, tuition and fees at public community colleges increased by 52 percent, going from 1.7 percent to 2.5 percent of the median annual income for a family of four. At independent four-year colleges, the increase was 67 percent, going from 14.8 percent to 24.7 percent of the median annual income for a family of four. Figure 2 illustrates the trend in inflation-adjusted dollars.

Figure 2 – Tuition and Fees by Type of Institution: *1976-77* to *1995-96*

(INFLATION-ADJUSTED DOLLARS)

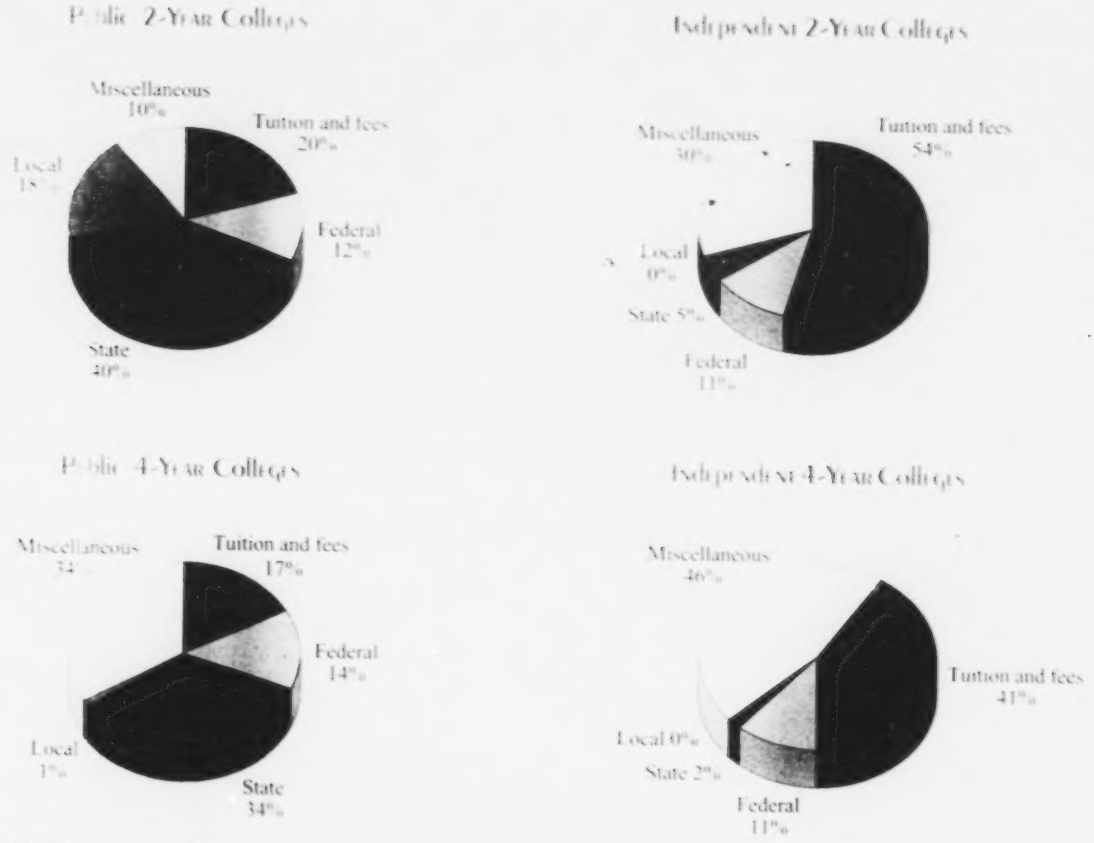


SOURCE: IPEDS, U.S. Department of Education

Revenue

As a percentage of total institutional revenue, tuition and fees range from 17 percent at public four-year colleges to 54 percent at independent two-year colleges *(see Figure 3)*. In 1994–95, tuition and fees accounted for 20 percent of revenue at community colleges and 41 percent of revenue at independent four-year colleges. However, tuition and fees are only part of the total revenue that colleges and universities need to finance their activities. The mix of funding sources for institutions is an important variable when looking at the rising cost of education for students and the public. Different sectors of higher education use different mixes of revenue to fund their institutions. Funding sources other than tuition and fees include support from federal, state, and local governments; private gifts, grants, and donations; foundation and endowment income; and income from institutional enterprises such as hospitals, bookstores, and contracts with businesses.

Figure 5 – Revenue by Source and Type of Institution: 1994-95



Source: IPEDS, U.S. Department of Education

State funds make up a significant portion of nontuition revenue for public institutions (40 percent and 34 percent of revenue for two-year colleges and four-year colleges respectively). Miscellaneous nongovernmental funds make up the largest portion of nontuition and fee revenue for independent institutions (30 percent and 46 percent of revenue for two-year and four-year colleges respectively). Community colleges are the only sector that receives significant revenue from local government sources (18 percent in 1994–95).

The miscellaneous revenue sources were larger for all sectors other than community colleges. Therefore, a further breakdown of miscellaneous revenue is useful for these sectors. For four-year colleges in 1994–95, hospital revenue[1] and auxiliary enterprises accounted for about 10 percent each of revenue (hospital revenue is slightly higher in the independent sector). Private grants and contracts accounted for more than 8 percent of revenue for independent institutions, but they were nearly nonexistent for public community colleges, forming only 1 percent of revenue. Endowments accounted for less than 1 percent of revenue at public institutions, while they averaged between 2 and 5 percent of revenue at independent institutions. Finally, sales and services were a relatively small portion (less than 4 percent) of revenue for all sectors except for the independent two-year colleges.

[1] Hospital revenue is exclusive to colleges with hospitals. Separate analyses of revenue were not done for institutions with or without hospitals.

Historical Context of Revenue

As Table 3 illustrates, the ratios of revenue streams have changed over the seven-year period analyzed. Public community colleges have seen a decrease of more than 13 percent in the percentage of revenue derived from state sources (from 45.9 percent down to 39.6 percent), while local sources of revenue have remained constant. The decrease in state revenue is almost entirely counterbalanced by an increase in the percentage of funds from tuition and fees (from 16.2 percent of revenue to 19.6 percent) and by an increase in federal funds.

Table 3—Revenue per FTE Student by Type of Institution in Current and Inflation-Adjusted Dollars, and Percentage of Revenue by Source: 1988 and 1994

Type of Institution	Current Dollars 1988	Current Dollars 1994	Current Dollars Change	Inflation-Adjusted Dollars 1988	Inflation-Adjusted Dollars 1994	Inflation-Adjusted Dollars Change	Percentage of Total Revenue 1988	Percentage of Total Revenue 1994
Federal Appropriations, Grants, Gifts, and Contracts								
Public 2-year	$546.59	$901.35	64.9%	$685.20	$901.35	31.5%	9.8%	12.4%
Independent 2-year	$1,162.71	$1,325.56	14.0%	$1,457.57	$1,325.56	-9.1%	12.7%	11.0%
Public 4-year	$2,346.07	$3,490.56	48.8%	$2,941.01	$3,490.56	18.7%	12.8%	13.7%
Independent 4-year	$3,089.89	$4,294.36	39.0%	$3,873.46	$4,294.36	10.9%	11.5%	11.1%
State Appropriations, Grants, Gifts, and Contracts								
Public 2-year	$2,549.13	$2,867.72	12.5%	$3,195.57	$2,867.72	-10.3%	45.9%	39.6%
Independent 2-year	$361.30	$593.81	64.4%	$452.93	$593.81	31.1%	3.9%	4.9%
Public 4-year	$7,465.53	$8,661.83	16.0%	$9,358.73	$8,661.83	-7.4%	40.7%	34.0%
Independent 4-year	$678.20	$791.22	16.7%	$850.18	$791.22	-6.9%	2.5%	2.0%
Local Appropriations, Grants, Gifts, and Contracts								
Public 2-year	$991.35	$1,301.15	31.3%	$1,242.75	$1,301.15	4.7%	17.9%	18.0%
Independent 2-year	$6.38	$7.00	9.6%	$8.00	$7.00	-12.6%	0.1%	0.1%
Public 4-year	$97.65	$157.92	61.7%	$122.42	$157.92	29.0%	0.5%	0.6%
Independent 4-year	$125.72	$181.15	44.1%	$157.60	$181.15	14.9%	0.5%	0.5%
Tuition and Fees								
Public 2-year	$900.69	$1,419.88	57.6%	$1,129.10	$1,419.88	25.8%	16.2%	19.6%
Independent 2-year	$4,511.40	$6,438.03	42.7%	$5,655.46	$6,438.03	13.8%	49.2%	53.6%
Public 4-year	$2,651.61	$4,416.59	66.6%	$3,324.03	$4,416.59	32.9%	14.4%	17.3%
Independent 4-year	$10,324.41	$15,912.63	54.1%	$12,942.60	$15,912.63	22.9%	38.3%	41.2%
Miscellaneous								
Public 2-year	$563.64	$749.72	33.0%	$706.58	$749.72	6.1%	10.2%	10.4%
Independent 2-year	$3,122.78	$3,642.49	16.6%	$3,914.70	$3,642.49	-7.0%	34.1%	30.3%
Public 4-year	$5,795.62	$8,735.68	50.7%	$7,265.35	$8,735.68	20.2%	31.6%	34.3%
Independent 4-year	$12,751.65	$17,431.61	36.7%	$15,985.38	$17,431.61	9.0%	47.3%	45.1%
Grand Total								
Public 2-year	$5,551	$7,240	30.4%	$6,959	$7,240	4.0%	100.0%	100.0%
Independent 2-year	$9,165	$12,007	31.0%	$11,489	$12,007	4.5%	100.0%	100.0%
Public 4-year	$18,356	$25,463	38.7%	$23,012	$25,463	10.7%	100.0%	100.0%
Independent 4-year	$26,970	$38,611	43.2%	$33,809	$38,611	14.2%	100.0%	100.0%

Source: IPEDS, U.S. Department of Education

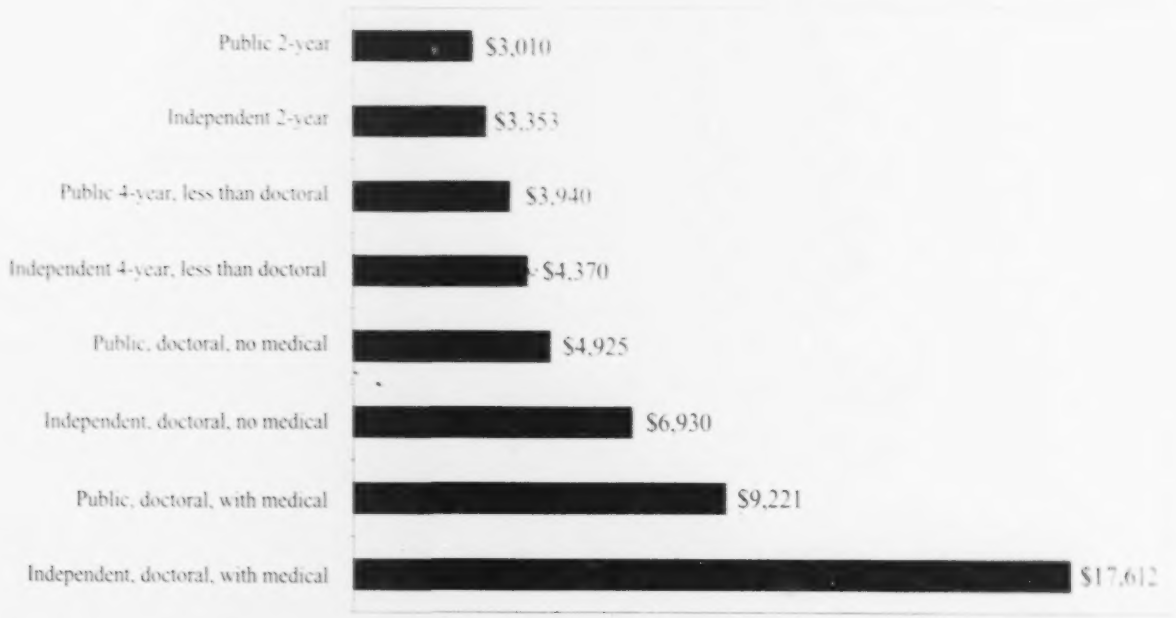
Public four-year colleges, like community colleges, saw the largest relative decrease in funds from the state (from 40.7 percent of revenue to 34.0 percent) over the seven-year period. Increased revenue from miscellaneous sources and tuition and fees replaced this loss. Both independent two-year and independent four-year colleges displayed a similar pattern. These institutions showed a decrease in miscellaneous revenue, which was offset by an increase in revenue from tuition and fees.

Expenditures

The expenditure patterns of various sectors of higher education reflect their differing missions. Community colleges' primary mission is to provide near-universal access to the first few years of higher education, and therefore these colleges focus chiefly on undergraduate teaching and learning. Community colleges are among the primary providers of remedial education that enables underprepared students to pursue a college education. On the other hand, colleges involved in research, doctoral education, or medical education have significantly different expenditure patterns than do institutions whose primary purpose is undergraduate education. For this analysis of expenditures, both public and independent not-for-profit institutions will be further divided into the following categories: two-year; four-year, less than doctoral; doctoral, no medical; and doctoral, with medical.

Perhaps the most important category is the amount spent per student on instruction. In 1994–95, public community colleges spent, on average, $3,010 on instruction per FTE student *(see Figure 4)*. The corresponding figures for four-year nondoctoral colleges are $3,940 for public and $4,370 for independent. The cost rises steeply when doctoral and medical training are included, with the cost per student at independent colleges with a medical school averaging more than $17,000.

Figure 4 – Instructional Expenditures per FTE Student by Type of Institution: 1994–95



SOURCE: IPEDS, U.S. Department of Education

Table 4 – Higher Education Expenditures per FTE Student by Type of Institution: 1988-89 and 1994-95

Type of Institution	Current Dollars 1988	Current Dollars 1994	Current Dollars Change	Inflation-Adjusted Dollars 1988	Inflation-Adjusted Dollars 1994	Inflation-Adjusted Dollars Change	Percentage of E & G 1988	Percentage of E & G 1994
Instruction								
Public 2-year	$2,389	$3,010	26.0%	$2,995	$3,010	0.5%	46.1%	44.5%
Independent 2-year	$2,114	$3,353	58.6%	$2,650	$3,353	26.5%	30.6%	31.3%
Public 4-year, less than doctoral	$3,304	$3,940	19.2%	$4,142	$3,940	-4.9%	45.2%	42.6%
Independent 4-year, less than doctoral	$3,222	$4,370	35.6%	$4,039	$4,370	8.2%	31.4%	30.0%
Public doctoral, no medical	$3,878	$4,925	27.0%	$4,861	$4,925	1.3%	39.0%	37.5%
Independent doctoral, no medical	$5,132	$6,930	35.0%	$6,433	$6,930	7.7%	34.4%	33.8%
Public doctoral, with medical	$6,797	$9,221	35.7%	$8,521	$9,221	8.2%	37.4%	35.7%
Independent doctoral, with medical	$11,250	$17,612	56.6%	$14,103	$17,612	24.9%	37.1%	37.4%
Faculty Salaries[a]								
Public 2-year	$1,792	$2,199	22.7%	$2,246	$2,199	-2.1%	34.6%	32.5%
Independent 2-year	$1,618	$2,366	46.2%	$2,028	$2,366	16.6%	23.4%	22.1%
Public 4-year, less than doctoral	$2,469	$2,841	15.1%	$3,095	$2,841	-8.2%	33.8%	30.8%
Independent 4-year, less than doctoral	$2,296	$3,055	33.1%	$2,878	$3,055	6.1%	22.3%	20.9%
Public doctoral, no medical	$2,827	$3,420	21.0%	$3,544	$3,420	-3.5%	28.4%	26.0%
Independent doctoral, no medical	$3,442	$4,538	31.8%	$4,315	$4,538	5.2%	23.1%	22.1%
Public doctoral, with medical	$4,779	$6,449	34.9%	$5,991	$6,449	7.6%	26.3%	25.0%
Independent doctoral, with medical	$7,017	$11,121	58.5%	$8,796	$11,121	26.4%	23.1%	23.6
Research								
Public 2-year	$38	$62	63.2%	$48	$62	30.2%	0.7%	0.9%
Independent 2-year	$275	$389	41.5%	$345	$389	12.8%	4.0%	3.6%
Public 4-year, less than doctoral	$109	$168	54.1%	$137	$168	22.9%	1.5%	1.8%
Independent 4-year, less than doctoral	$214	$316	47.7%	$268	$316	17.8%	2.1%	2.2%
Public doctoral, no medical	$1,443	$2,008	39.2%	$1,809	$2,008	11.0%	14.5%	15.3%
Independent doctoral, no medical	$1,788	$2,398	34.1%	$2,241	$2,398	7.0%	12.0%	11.7%
Public doctoral, with medical	$3,736	$5,648	51.2%	$4,683	$5,648	20.6%	20.5%	21.9%
Independent doctoral, with medical	$5,779	$8,747	51.4%	$7,245	$8,747	20.7%	19.1%	18.6%
Public Service								
Public 2-year	$156	$193	23.7%	$156	$193	-1.3%	3.0%	2.9%
Independent 2-year	$228	$209	-8.3%	$228	$209	-26.9%	3.3%	2.0%
Public 4-year, less than doctoral	$207	$324	56.5%	$207	$324	24.9%	2.8%	3.5%
Independent 4-year, less than doctoral	$224	$321	43.3%	$224	$321	14.3%	2.2%	2.2%
Public doctoral, no medical	$442	$629	42.3%	$442	$629	13.5%	4.4%	4.8%
Independent doctoral, no medical	$296	$439	48.3%	$296	$439	18.3%	2.0%	2.1%
Public doctoral, with medical	$1,507	$2,170	44.0%	$1,507	$2,170	14.9%	8.3%	8.4%
Independent doctoral, with medical	$2,333	$4,000	71.5%	$2,333	$4,000	36.8%	7.7%	8.5%
Academic Support								
Public 2-year	$415	$509	22.7%	$415	$509	-2.2%	8.0%	7.5%
Independent 2-year	$449	$570	26.9%	$449	$570	1.3%	6.5%	5.3%
Public 4-year, less than doctoral	$631	$790	25.2%	$631	$790	-0.1%	8.6%	8.6%
Independent 4-year, less than doctoral	$718	$1,004	39.8%	$718	$1,004	11.5%	7.0%	6.9%
Public doctoral, no medical	$969	$1,251	29.1%	$969	$1,251	3.0%	9.7%	9.5%
Independent doctoral, no medical	$1,253	$1,711	36.6%	$1,253	$1,711	8.9%	8.4%	8.3%
Public doctoral, with medical	$1,583	$2,223	40.4%	$1,583	$2,223	12.0%	8.7%	8.6%
Independent doctoral, with medical	$2,456	$3,092	25.9%	$2,456	$3,092	0.4%	8.1%	6.6%

SOURCE: IPEDS, U.S. Department of Education

[a]Faculty Salaries is a subset of Instruction.

Table 4 *continued*

Type of Institution	Current Dollars 1988	Current Dollars 1994	Current Dollars Change	Inflation-Adjusted Dollars 1988	Inflation-Adjusted Dollars 1994	Inflation-Adjusted Dollars Change	Percentage of E & G 1988	Percentage of E & G 1994
Student Services								
Public 2-year	$452	$638	41.2%	$567	$638	12.6%	8.7%	9.4%
Independent 2-year	$702	$1,260	79.5%	$880	$1,260	43.2%	10.1%	11.8%
Public 4-year, less than doctoral	$536	$743	38.6%	$672	$743	10.6%	7.3%	8.0%
Independent 4-year, less than doctoral	$998	$1,454	45.7%	$1,251	$1,454	16.2%	9.7%	10.0%
Public doctoral, no medical	$523	$703	34.4%	$656	$703	7.2%	5.3%	5.4%
Independent doctoral, no medical	$951	$1,338	40.7%	$1,192	$1,338	12.2%	6.4%	6.5%
Public doctoral, with medical	$546	$744	36.3%	$684	$744	8.7%	3.0%	2.9%
Independent doctoral, with medical	$966	$1,442	49.3%	$1,211	$1,442	19.1%	3.2%	3.1%
Institutional Support								
Public 2-year	$739	$928	25.6%	$926	$928	0.2%	14.3%	13.7%
Independent 2-year	$1,488	$1,985	33.4%	$1,865	$1,985	6.4%	21.5%	18.5%
Public 4-year, less than doctoral	$925	$1,170	26.5%	$1,160	$1,170	0.9%	12.7%	12.7%
Independent 4-year, less than doctoral	$1,771	$2,290	29.3%	$2,220	$2,290	3.1%	17.2%	15.7%
Public doctoral, no medical	$923	$1,145	24.1%	$1,157	$1,145	-1.0%	9.3%	8.7%
Independent doctoral, no medical	$2,093	$2,682	28.1%	$2,624	$2,682	2.2%	14.0%	13.1%
Public doctoral, with medical	$1,306	$1,748	33.8%	$1,637	$1,748	6.8%	7.2%	6.8%
Independent doctoral, with medical	$2,805	$4,119	46.8%	$3,516	$4,119	17.1%	9.3%	8.7%
Operation and Maintenance of Plant								
Public 2-year	$535	$630	17.8%	$671	$630	-6.1%	10.3%	9.3%
Independent 2-year	$703	$923	31.3%	$881	$923	4.7%	10.2%	8.6%
Public 4-year, less than doctoral	$756	$848	12.2%	$948	$848	-10.5%	10.4%	9.2%
Independent 4-year, less than doctoral	$961	$1,166	21.3%	$1,205	$1,166	-3.2%	9.4%	8.0%
Public doctoral, no medical	$880	$981	11.5%	$1,103	$981	-11.1%	8.8%	7.5%
Independent doctoral, no medical	$1,231	$1,520	23.5%	$1,543	$1,520	-1.5%	8.2%	7.4%
Public doctoral, with medical	$1,337	$1,681	25.7%	$1,676	$1,681	0.3%	7.3%	6.5%
Independent doctoral, with medical	$2,143	$3,188	48.8%	$2,686	$3,188	18.7%	7.1%	6.8%
Scholarships and Fellowships								
Public 2-year	$454	$800	76.2%	$569	$800	40.6%	8.8%	11.8%
Independent 2-year	$1,228	$2,376	93.5%	$1,539	$2,376	54.3%	17.8%	22.2%
Public 4-year, less than doctoral	$701	$1,102	57.2%	$879	$1,102	25.4%	9.6%	11.9%
Independent 4-year, less than doctoral	$1,959	$3,439	75.5%	$2,456	$3,439	40.0%	19.1%	23.6%
Public doctoral, no medical	$721	$1,152	59.8%	$904	$1,152	27.5%	7.2%	8.8%
Independent doctoral, no medical	$1,872	$3,402	81.7%	$2,347	$3,402	45.0%	12.5%	16.6%
Public doctoral, with medical	$868	$1,445	66.5%	$1,088	$1,445	32.8%	4.8%	5.6%
Independent doctoral, with medical	$2,686	$4,820	79.4%	$3,367	$4,820	43.1%	8.9%	10.2%
Total Education and General Expenditures								
Public 2-year	$5,181	$6,762	30.5%	$6,495	$6,762	4.1%	100.0%	100.0%
Independent 2-year	$6,918	$10,701	54.7%	$8,672	$10,701	23.4%	100.0%	100.0%
Public 4-year, less than doctoral	$7,303	$9,238	26.5%	$9,155	$9,238	0.9%	100.0%	100.0%
Independent 4-year, less than doctoral	$10,276	$14,585	41.9%	$12,882	$14,585	13.2%	100.0%	100.0%
Public doctoral, no medical	$9,949	$13,132	32.0%	$12,472	$13,132	5.3%	100.0%	100.0%
Independent doctoral, no medical	$14,925	$20,524	37.5%	$18,710	$20,524	9.7%	100.0%	100.0%
Public doctoral, with medical	$18,194	$25,808	41.8%	$22,808	$25,808	13.2%	100.0%	100.0%
Independent doctoral, with medical	$30,321	$47,131	55.4%	$38,010	$47,131	24.0%	100.0%	100.0%

Higher Education Consumer Goods

The relative cost of providing education-related goods and services has increased at a faster rate than has the general cost of living. The higher education price index (HEPI), originally designed by the U.S. Department of Education, looks at the goods and services specific to colleges and universities. Between 1988–89 and 1994–95, the HEPI shows that education-related expenses increased by more than 29 percent (Research Associates of Washington, 1997). During the same period, the consumer price index (CPI) increased by only 24 percent. The three areas that have contributed the most to this rise in educational costs are library acquisitions (53 percent increase), fringe benefits (45 percent increase), and professional salaries (30 percent increase). Colleges and universities have experienced more inflation than the average consumer.

Between 1988–89 and 1994–95, expenditures on instruction at community colleges remained fairly constant in inflation-adjusted dollars and decreased at public four-year colleges without doctoral programs *(see Table 4)*. Instructional expenditures increased moderately in all other institutions except for independent two-year colleges and independent doctoral colleges with medical schools, where they increased by 25 percent or more.

Expenditures for faculty salaries were the largest component of instructional expenditures. Public colleges with doctoral programs spent only 69 percent of their instructional expenditures on faculty salaries, while other four-year colleges spent about 72 percent and community colleges spent almost 73 percent of their instructional expenditures on salary. Community colleges spent considerably less per FTE student on faculty salaries than did the other two sectors. Over the seven-year period of 1988–89 to 1994–95, faculty salary expenditures (in inflation-adjusted dollars) decreased at all public institutions except for those with medical schools, where they increased by 7.6 percent.

Academic support includes all expenditures related to academics that do not include instructional expenditures. A part of academic support is used for administration (academic deans, etc.), while the rest is for other academic, noninstructional expenditures such as libraries, audiovisual services, or academic computing. After controlling for inflation, most educational institutions have maintained a relatively constant level of support in this area. The exceptions are public colleges with medical facilities and the independent sector.

Student services, which includes such activities as student advising and counseling, is one area in which all institutions showed increases in expenditures between 1988–89 and 1994–95. The expenditure per full-time-equivalent student ranged from $638 at public community colleges to $1,454 at independent four-year, nondoctoral colleges. Community colleges also spent 12 percent of their total education and general (E & G)[2] budgets on scholarships and grants. This equaled approximately $800 per FTE student. Independent colleges with medical programs spent more than 10 percent of their expenditures on scholarships and fellowships, equaling approximately $4,820 per FTE student. Independent two-year and four-year colleges that do not offer doctorates spent the highest percentage of their budgets on scholarships and fellowships, about 23 percent.

[2] These are expenditures integral to the daily operation of education and research. They do not include expenditures related to auxiliary enterprises and hospitals.

Public community colleges spent the most on student-related areas, including instruction, public service, academic support, student services, and scholarships. In fact, more than 75 percent of their total E & G expenditures are in student-related areas, compared with 61 percent at public colleges with medical schools. Public four-year colleges that do not offer doctorates are slightly below 75 percent for these same expenditures.

As noted above, expenditures on instruction—particularly faculty salaries—are a major portion of higher education expenditures. One measure of faculty productivity is the amount of time spent teaching. Table 5 shows that faculty in community colleges spent a considerable amount of time in the classroom. Full-time community college faculty averaged 16.4 hours per week in the classroom. The equivalent figures for other sectors were fewer than 10 hours per week for faculty in institutions offering doctoral education and between 10 and 12 hours per week in other four-year institutions. Likewise, community college full-time faculty have more total student contact hours per week (students per class multiplied by contact hours per week) than any other sector, meaning that each full-time faculty member teaches more students than do faculty in any other sector. Community colleges use part-time faculty at a significantly higher rate than any other sector of higher education.

Table 5—Actual Hours per Week Full-time Faculty Spent Teaching Credit Courses, 1992-93

Type of Institution*	Public	Independent
Community college	16.4	12.8
Liberal arts	N/A	10.6
Comprehensive 4-year	11.4	11.4
Doctoral, no medical	7.8	6.7
Doctoral, with medical	9.7	8.4

Source: NSOPF-93, U.S. Department of Education
*Based on Carnegie classification

Conclusion

Tuition and fees have risen in recent years relative to inflation across all sectors of higher education. At public community colleges, this increase has been less than in the other sectors. An analysis of revenue sources shows that this trend is primarily due to decreased revenue from state and, in the case of public colleges, local sources. Despite the increases in tuition and fees, the average family of four would have to spend only 2.5 percent of its annual income to send a child to community college for one year. In addition, community colleges are the most cost effective to the public, as it costs significantly less per full-time-equivalent student to provide education at a community college than at any other type of higher educational institution.

Data Note

Data for this research brief are all publicly available from the federal government. The two primary sources are the National Center for Education Statistics (NCES), a branch of the U.S. Department of Education, and the Bureau of the Census, a branch of the U.S. Department of Commerce. Data for tuition and fees come from NCES publications. Family income data and state expenditure data come from the Bureau of the Census. Data on higher education revenue, expenditures, and enrollment come from the Integrated Postsecondary Education Data System (IPEDS), NCES. Information on faculty comes from the IPEDS survey and the National Study of Postsecondary Faculty (NSOPF), NCES. Inflation adjustments (conversion to constant dollars) were based on the consumer price index, published by the Bureau of Labor Statistics, a branch of the U.S. Department of Labor. Revenue and expenditures per FTE student were determined by dividing the total revenue or expenditures by the FTE enrollment. FTE enrollment was computed by adding the full-time enrollment to .33 times the part-time enrollment (the formula used by NCES for computing FTE enrollment). Tuition as a percentage of family income was computed by dividing the average tuition and fees by the median U.S. income for a family of four. Faculty workloads were based on variables from the NSOPF data files.

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